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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,252	09/03/2003	Yasuyuki Suzuki	030939	2785

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WASHINGTON, DC 20006

EXAMINER
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GEISEL, KARA E

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/653,252

Applicant(s)

SUZUKI ET AL.

Examiner

Kara E Geisel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0903.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Preliminary Amendment***

The preliminary amendment filed on September 3<sup>rd</sup>, 2003, has been entered into this application.

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

The certified copies have been filed in this application on September 3<sup>rd</sup>, 2003.

### ***Information Disclosure Statement***

The information disclosure statement filed on September 3<sup>rd</sup>, 2003, has been fully considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (JP 2000321135).

In regards to claim 1, Suzuki discloses a spectrometer (fig. 1) wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device (9), and the light under measurement thus

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spectrally divided by the chromatic dispersion device is received and detected by an optical detector (5), wherein the spectrometer comprises a refractive index compensation means (10) for compensating changes in the angle at which said chromatic dispersion device transmits light under measurement, according to changes in the refractive index of the medium in which the chromatic dispersion device is placed (translation, ¶ 24 and 47).

In regards to claim 2, the refractive index compensation means is made integral with the chromatic dispersion device (fig. 1, 9 and 10) across the diffracting plane thereof and the light under measurement almost perpendicularly enters the refractive index compensation means (10) and the components of the light under measurement spectrally divided by the chromatic dispersion device are almost perpendicularly transmitted from the refractive index compensation means.

In regards to claim 3, the refractive index compensation means (fig. 1, 10) is provided in a specific position on the optical path before the point at which the light under measurement is received by the optical detector (5), and deflects and transmits the light under measurement input there into.

In regards to claim 4, the refractive index compensation means is a prism (translation, ¶ 27).

In regards to claim 5, Suzuki discloses an optical spectrum analyzer for determining the wavelengths of the light under measurement from an output from the optical detector of the spectrometer (fig. 1).

Claims 1-6 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Cappiello (USPN 6,570,652).

In regards to claim 1, Cappiello discloses a spectrometer (fig. 2) wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device (11), and the light under measurement thus spectrally divided by the chromatic dispersion device is received and detected by an optical detector (14), wherein the spectrometer comprises a refractive index compensation means (17) for compensating

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changes in the angle at which said chromatic dispersion device transmits light under measurement, according to changes in the refractive index of the medium in which the chromatic dispersion device is placed (column 2, lines 47-67).

In regards to claim 2, the refractive index compensation means is made integral with the chromatic dispersion device (column 5, lines 33-36) across the diffracting plane thereof and the light under measurement almost perpendicularly enters the refractive index compensation means (17) and the components of the light under measurement spectrally divided by the chromatic dispersion device are almost perpendicularly transmitted from the refractive index compensation means.

In regards to claim 3, the refractive index compensation means (17) is provided in a specific position on the optical path before the point at which the light under measurement is received by the optical detector (14), and deflects and transmits the light under measurement input there into.

In regards to claim 4, the refractive index compensation means is a prism (column 2, lines 47-67).

In regards to claim 5, Cappiello discloses an optical spectrum analyzer for determining the wavelengths of the light under measurement from an output from the optical detector of the spectrometer (fig. 1, 550).

In regards to claim 6, Cappiello discloses an optical spectrum analyzer (fig. 2) wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device (11), the light under measurement thus spectrally divided by the chromatic dispersion device is received by an optical detector (14), and a wavelength calculation means determines the wavelengths of the light under measurement by means of an output from the optical detector (fig. 1, 550), wherein the optical spectrum analyzer comprises a calibration unit for correcting wavelengths determined by the wavelength calculation means according to the refractive index of the medium in which the chromatic dispersion device is placed (column 2, lines 40-46).

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In regards to claim 14, the chromatic dispersion device is a grating (column 2, lines 32-35).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cappiello (USPN 6,570,652).

In regards to claims 7-9, Cappiello does not disclose what the calibration unit comprises. However, a memory and processing means as disclosed in the claims for calibrating the analyzer and correcting the wavelengths due to the calibration would be obvious to one of ordinary skill to place as protocol in the software that is disclosed in Cappiello (column 2, lines 45-46).

In regards to claim 10, the analyzer would further comprise environment measurement means (column 2, lines 45-46).

In regards to claim 11, the environment of use includes the factor of temperature (column 2, lines 45-46 and column 7, lines 5-10).

***Allowable Subject Matter***

Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 12, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical spectrum analyzer wherein an environment measurement means is an altimeter, in combination with the rest of the limitations of claim 12.

As to claim 13, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical spectrum analyzer wherein an environment measurement means is a GPS, in combination with the rest of the limitations of claim 13.

***Additional Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Harada et al. (USPN 4,983,039), Chen (USPN 5,691,847), Shimomura et al. (USPN 6,064,057), Kondis et al. (USPN 6,693,745), and Ertel et al. (US Pub 2004/0042079).

Harada discloses a spectrometer wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device, and the light under measurement thus spectrally divided by the chromatic dispersion device is received and detected by an optical detector, wherein the spectrometer comprises a refractive index compensation means for compensating changes in the angle at which said chromatic dispersion device transmits light under measurement, according to changes in the refractive index of the medium in which the chromatic dispersion device is placed.

Chen discloses a chromatic dispersion device used to spectrally divide light by transmitting the components thereof at different, wavelength-by-wavelength angles, wherein the system further comprises

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a refractive index compensation means for compensating changes in the angle at which said chromatic dispersion device transmits light according to changes in the refractive index of the medium in which the chromatic dispersion device is placed.

Shimomura discloses a spectrometer wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device, and the light under measurement thus spectrally divided by the chromatic dispersion device is received and detected by an optical detector, wherein the spectrometer comprises a refractive index compensation means for compensating changes in the angle at which said chromatic dispersion device transmits light under measurement, according to changes in the refractive index of the medium in which the chromatic dispersion device is placed.

Kondis discloses a chromatic dispersion device used to spectrally divide light by transmitting the components thereof at different, wavelength-by-wavelength angles, wherein the system further comprises a refractive index compensation means, which is a prism, for compensating changes in the angle at which said chromatic dispersion device transmits light according to changes in the refractive index of the medium in which the chromatic dispersion device is placed.

Ertel discloses a spectrometer wherein the light under measurement is spectrally divided by transmitting the components thereof at different, wavelength-by-wavelength angles using a chromatic dispersion device, and the light under measurement thus spectrally divided by the chromatic dispersion device is received and detected by an optical detector, wherein the spectrometer comprises a refractive index compensation means for compensating changes in the angle at which said chromatic dispersion device transmits light under measurement, according to changes in the refractive index of the medium in which the chromatic dispersion device is placed.


### ***Conclusion***




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J Toatley, Jr. can be reached on **571 272 2059**. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and 703 872 9306 for After Final communications.

  
F.L. Evans  
Primary Examiner  
Art Unit 2877

  
KEG  
July 22, 2004